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REMARKS

Claims 1-18 are pending in the application. Claims 3 and 16 have been amended herein. Favorable reconsideration of the application, as amended, is respectfully requested.

I. CLAIM OBJECTIONS

Claim 16 is objected to due to informality. Claim 16 has been amended to correct the informality.

II REJECTION OF CLAIMS UNDER 35 USC § 102 and 35 USC § 103

Claims 1-2, 5-11, and 14-18 stand rejected under 35 USC 102(b) as being unpatentable over US Patent 5,991,806 to McHann. Claims 3-4 and 12-13 stand rejected under 35 USC 103(a) as being unpatentable over McHann in view of US Patent 7,225,249 to Barry.

Claims 1-18 have been amended.

General Discussion of Applicant's Invention

The Simple Network Management Protocol (SNMP) is a well known communication protocol that enable an SNMP Manager (also known as an SNMP Managing System) to collect data from SNMP managed clients (also known as SNMP managed systems or agents).

It is well known that SNMP utilizes UDP/IP messaging to predefined ports and, as such, an SNMP request can not be sent from an SNMP Manager on the Internet to an SNMP managed client that is on a local area network served by a NAT firewall (e.g. a network utilizing the subset of IP addresses reserved for local area networks).

In a NAT firewall environment message exchanges can only be initiated by the client device on the local network and responded to by the device on the Internet.

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With reference to the applicant's Figure 1, the applicant's invention is to a novel sub manager system 20. The sub manager 20 operates, with respect to an SNMP Managing System 22, as an SNMP managed client. The sub manager operates, with respect to each SNMP managed client 18, as an SNMP manager – but with the exception that messaging is sent utilizing a connection maintained through the firewall.

In more detail, the SNMP manager 22 sends a Master SNMP network management request message to the Sub Manager. The Sub Manager generates and sends SNMP network management requests to each of the clients, each through the connection maintained with such client through the firewall.

A response is received from each client. The responses are aggregated into a single response message back to the SNMP Manager 22.

General Discussion of McHann

McHann Figures 4 and 5 depict a well known SNMP architecture wherein a Managing System (402 in Figure 4, 502 in Figure 5) utilizes SNMP management protocols to communicate with one or more Agents (412) of the Managed Systems (404 in Figure 4, 504 in Figure 5). As is well known in the art of network management, the SNMP management protocols utilize UDP/IP messaging over an IP compliant network.

With reference to Figure 1, McHann teaches a message router 104 which executes on a computer system 102 and determines local computer system events such as (ACPI, SMI, PnP, DMI, an OS events) and generates messages in a common format that may be sent over a network 104. SNMP is a representative common format.

In more detail, McHann teaches a software application (Dynamic System Control 810 as depicted in Figure 8) which resides on one of the managed systems. The DSC 810 monitors local events on the system bus (such as DMI, SMI, OS or other system messages) and generates common format messages (e.g. SNMP messages) to the Managing System over the IP network 802 (note,

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network 802 is near the bottom of McHann Figure 8, it is unknown why the processor is also labeled 802).

The DSC 810 monitors the system bus to detect such "lower level" local events or otherwise receives such local events – and passes common format (e.g. SNMP messages) up to the SNMP Managing System. The system components are not SNMP managed clients and there is no teaching in McHann of requesting information from any of the system components.

Further, other than discussion related to use of standard SNMP messaging protocols, McHann does not teach any systems for communicating between the SNMP Managing System and the Agent of the SNMP Managed Systems. More importantly, McHann Specifically does not teach inclusion of a sub manager operating between the Managing System 402 and the Agent 412 of the Managed System 404 for purposes of passing SNMP management messages through a firewall serving the Managed System.

Claim 1

The applicant's invention, as defined in claim 1, is to a sub manager for interfacing between an SNMP network management system and a plurality of SNMP managed clients.

The sub manager includes a network management agent which i) receives a master SNMP network management request message from the network management system; and ii) provides an SNMP network management response message to the SNMP network management system.

The sub manager also includes a connection module. The connection module, for each of the plurality of SNMP managed clients: i) establishes an internet protocol connection with such SNMP managed client through the firewall servicing such SNMP managed client; and ii) through such connection both a) provides a client network managed request message to such SNMP managed client; and b) receives a client response message.

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The sub manager further includes a message handling module which: i) receives the master SNMP network management request message; ii) for each SNMP managed client, generates and provides the client network management request message; iii) receives, from each of the SNMP managed clients, the client response message; iv) aggregates each client response message to generate the SNMP network management response message; and v) provides the SNMP network management response message to the SNMP network management system.

Further, each such message includes novel management information base features as recited in claim 1.

The examiner recites McHann's dynamic system controller as teaching applicant's network management agent and, with respect to reciting a master network management request message from the network management system, the Examiner cites Figure 9, and C9, L31 to C10, L26 as teaching such.

The applicant respectfully disagrees, Figure 9 and such related discussion teach the DSC 810 (which is an application on a local computer system) receiving message 902 (e.g. DMI, SMI, OS or other system messages) on the system bus, identifying the message format, converting to a common format (such as SNMP) and communicating the message over the IP network 802 (Figure 8) to a network management system.

Although McHann does not teach whether step 908 (communicating the common format message) represents sending an unsolicited SNMP Trap Message or responding to an SNMP Request message –both possible options are messages being sent “up” to the network management system and are the opposite of applicants network management agent receiving a SNMP network management request “down” from the SNMP network management system.

Further, the applicant has specifically recited that the master network management request message include a plurality of master object identifiers, each

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master object identifier comprising a client identifier that identifies a particular one of the clients and a variable portion that identifies a variable value within a client management information base. The examiner does not explain how the steps disclosed in Figure 9 and the related discussion disclose such novel message structure.

Additionally, the examiner does not explain how Figure 4 block 406 (a block labeled Management Information Base) discloses the applicant's novel message structure of the master SNMP network management request message.

The examiner recites Column 4, lines 1-8 as teaching the applicant's message handling module – which: i) generates, for each master object identifier in the master SNMP network management request message, a client network management request message with certain recited features; and ii) provides, to each one of the SNMP managed clients, a client network management request message over the network connection established with such particular one of the SNMP managed clients.

Column 4, lines 1 through 2 state that one example of a common message format is a Simple Network Management Protocol (SNMP). Column 4, lines 2-8 state that the “network system” 102 includes a plurality of subsystems that generate messages in different formats, for example including messages in ACPI (Advanced Configured and Power Interface), SMI (System Management Interface), PnP (Plug and Play), DMI (Desktop Management Interface), and OS (Operating System) formats.

First, it must be appreciated that although McHann has called element 102 a “network system”, element 102 is structurally is not a network, but a computer, with a traditional system bus, that may be coupled to a network 100.

In view of teachings of Figure 2, 3, 8, and 9-12 it is apparent that in many instances McHann uses the word “network” to refer to the structure of a system bus wherein local components exchange messages such as ACPI (Advanced Configured and Power Interface), SMI (System Management Interface), PnP (Plug

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and Play), DMI (Desktop Management Interface), and OS (Operating System) formats.

Secondly, as discussed with respect to McHann Figure 8, the DSC monitors for these messages on the system bus and may generate a SNMP message to the SNMP network manager on the network 102. As such, the teachings of C1, lines 1-8 is comparable to the teaching of McHann Figure 9 in that an event on the computer system can result in detection of the event by the DSC, conversion to a common format such as SNMP, and transmission to an SNMP network manager (for example 402 of McHann 4) over network 102.

Again, such teaching describes messages being sent "up" to the network management system and are the opposite of applicants network management agent receiving a SNMP network management request "down" from the SNMP network management system and sending a plurality of client network management requests "down" to a plurality of SNMP managed clients.

Further Figure 11 and related discussion at C12, L1-32 cited by the examiner also relate only detecting events (from multiple systems on the local bus) identifying the local system format, selecting certain events via various steps, and supplying those certain events (step 1122) across a network 802 to selected network management systems such as NetManager, HP Open View, and IBM Netview – all well known SNMP Management Systems (e.g. all well known implementations of McHann element 402 of Figure 4).

Again, such teaching describes messages being sent "up" to the network management system and are the opposite of applicants network management agent receiving a SNMP network management request "down" from the SNMP network management system and sending a plurality of client network management requests "down" to a plurality of SNMP managed clients.

With respect to the applicant's message handling module receiving a client response message from each of the particular clients to which a client network

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management message was provided, the examiner recites Figure 11 and C12-L5-32.

As discussed, Figure 11 and such related discussion relates relate only detecting events (from multiple systems on the local bus) identifying the local system format, selecting certain events via various steps, and supplying those certain events (step1122) across a network 802 to selected network management systems such as NetManager, HP Open View, and IBM Netview – all well known SNMP Management Systems (e.g. all well known implementations of McHann element 402 of Figure 4. The examiner does not explain how such discussion teaches the recited features of the messages in applicant's invention – and in particular how any teachings of Figure 11 related to receiving a "response" from a particular client tow which a client network management request message was provided.

For these reasons Claim 1 is believed to be allowable over McHann. Further, neither Barry nor the other art of record, alone or in combination, teaches the novel elements recited in applicant's claim 1.

Claim 10

As the examiner has indicated, claim 10 is a method claim of claim 1 and is therefore distinguishable over McHann and the other art of record for at least the same reasons as claim 1.

Claims 2-9 and 11- 18

Claims 2-9 and 11-18 each depend from Claim1 or Claim 10 an can be distinguished over McHann, Barry and the other art of record for at least the same reasons. Further, the features recited in each such dependent claim further distinguish such claims over McHann, Barry, and the other art of record.

IV. CONCLUSION

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Accordingly, Claims 1-18 are believed to be allowable and the application is believed to be in condition for allowance. A prompt action to such end is earnestly solicited.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Respectfully submitted,



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